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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/865,948	05/25/2001	Alyssa M. Haggood	3188.001	6652

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EXAMINER

DOUGHERTY, ANTHONY T

ART UNIT PAPER NUMBER

2863

DATE MAILED: 11/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

AA

**Office Action Summary**

Application No.

09/865,948

Applicant(s)

HAPGOOD ET AL.

Examiner

Anthony T. Dougherty

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1)  Responsive to communication(s) filed on 08 September 2003.
- 2a)  This action is **FINAL**.
- 2b)  This action is non-final.
- 3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4)  Claim(s) 1-48 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5)  Claim(s) \_\_\_\_\_ is/are allowed.
- 6)  Claim(s) 1-3, 5, 8-10, 12, 15-17, 19, 22-24, 26, 29, 30, 32, 34, 35, 37, 39, 40, 42, 44, 45 and 47 is/are rejected.
- 7)  Claim(s) 4, 6, 7, 11, 13, 14, 18, 20, 21, 25, 27, 28, 31, 33, 36, 38, 41, 43, 46 and 48 is/are objected to.
- 8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9)  The specification is objected to by the Examiner.
- 10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11)  The proposed drawing correction filed on 08 September 2003 is: a)  approved b)  disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12)  The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All b)  Some \* c)  None of:
    - 1.  Certified copies of the priority documents have been received.
    - 2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    - 3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* See the attached detailed Office action for a list of the certified copies not received.
- 14)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
  - a)  The translation of the foreign language provisional application has been received.
- 15)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1)  Notice of References Cited (PTO-892)
- 2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3)  Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4)  Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5)  Notice of Informal Patent Application (PTO-152)
- 6)  Other: \_\_\_\_\_.

**DETAILED ACTION**

*Drawings*

*Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 8, 15, 22, 29, 34, 39, and 44 rejected under 35 U.S.C. 102(b) as being anticipated by “Body condition scoring and weight estimation of horses”; C.L. Carrol and P.J. Huntington; Equine Veterinary Journal, Equine vet.J. (1998) (1) ; PGS. 41-45 (herein referred to as Carrol et al.).

With regard to claims 1, 8, 15, and 22 Carrol et al. discloses a method for estimating the weight of a horse (see page 44 Table 2 line 7), by measuring a girth (see page 41 column 2 line 6 through line 10), a length (see page 41 column 2 line 7 through line 8), and a height of the horse (see page 41 line 2 through line 4), and determining an estimated weight of the horse based on a mathematical formula (see page 44 Table 2) including the girth, the length and the height of the horse (see page 42 column 2 line 4 through line 9 and Table 2 which shows how accurate girth x length x height is for determining the weight of a horse). Furthermore it is inherent that Carrol et al. used a computer medium with storage and output means for calculations and output (see Figures 1-3 and Tables 1-4), and it is also inherent that at least two of the girth, the length, and the height in the mathematical formula have a different significance in the mathematical formula

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since each is represented by its own variable name thus indicating that each has a different significance in the formula (see page 44 Table 2 line 7).

With regard to claims 29, 34, 39, and 44, Carrol et al. discloses a method for estimating the weight of a horse (see page 44 Table 2 line 6), by measuring a girth (see page 41 column 2 line 6 through line 10), and a height of the horse (see page 41 line 2 through line 4), and determining an estimated weight of the horse based on a mathematical formula (see page 44 Table 2) including the girth and the height of the horse (see page 42 column 2 line 4 through line 9 and Table 2 which shows how accurate girth x height is for determining the weight of a horse). Furthermore it is inherent that Carrol et al. used a computer medium with storage and output means for calculations and output (see Figures 1-3 and Tables 1-4) and it is also inherent that at least two of the girth, the length, and the height in the mathematical formula have a different significance in the mathematical formula since each is represented by its own variable name thus indicating that each has a different significance in the formula (see page 44 Table 2 line 7).

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 3, 5, 9, 10, 12, 16, 17, 19, 23, 24, 26, 30, 32, 35, 37, 40, 42, 45, and 47 rejected under 35 U.S.C. 103(a) as being unpatentable over "Body condition scoring and weight

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estimation of horses”; C.L. Carrol and P.J. Huntington; Equine Veterinary Journal, Equine vet.J. (1998) (1) ; PGS. 41-45 (herein referred to as Carrol et al.) as applied to claims 1, 8, 15, 22, 29, 34, 39, and 44 above, and further in view of Eric W. Weisstein’s world of mathematics at <http://mathworld.wolfram.com/> © 1999.

With regard to claims 2, 3, 5, 9, 10, 12, 16, 17, 19, 23, 24, and 26 the primary reference to Carrol et al. discloses estimating the weight of a horse (see page 44 Table 2 line 7), by measuring a girth (see page 41 column 2 line 6 through line 10), a length (see page 41 column 2 line 7 through line 8), and a height of the horse (see page 41 line 2 through line 4), and determining an estimated weight of the horse based on the girth, the length and the height of the horse (see page 42 column 2 line 4 through line 9 and Table 2 which shows how accurate girth x length x height is for determining the weight of a horse). Furthermore it is inherent that Carrol et al. used a computer medium with storage and output means for calculations and output (see Figures 1-3 and Tables 1-4). However, Carrol et al. fails to disclose estimating the weight of a horse based on a linear regression of height, length and girth.

The secondary reference to Weisstein discloses linear regression is a method for fitting a curve (not necessarily a straight line) through a set of points using some goodness-of-fit criterion (see <http://mathworld.wolfram.com/Regression.html> and <http://mathworld.wolfram.com/LinearRegression.html> and <http://mathworld.wolfram.com/LeastSquaresFitting.html>).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used linear regression to estimate the weight of a horse.

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Accordingly, such a modification would have been obvious since linear regression can provide the best possible solution to a relationship between variables (see <http://mathworld.wolfram.com/LeastSquaresFitting.html>) such as length, height, and girth, thereby suggesting the obviousness of the modification.

With regard to claims 30, 32, 35, 37, 40, 42, 45, and 47 the primary reference to Carrol et al. discloses a method for estimating the weight of a horse (see page 44 Table 2 line 6), by measuring a girth (see page 41 column 2 line 6 through line 10), and a height of the horse (see page 41 line 2 through line 4), and determining an estimated weight of the horse based on the girth and the height of the horse (see page 42 column 2 line 4 through line 9 and Table 2 which shows how accurate girth x height is for determining the weight of a horse). Furthermore it is inherent that Carrol et al. used a computer medium with storage and output means for calculations and output (see Figures 1-3 and Tables 1-4). However, Carrol et al. fails to disclose estimating the weight of a horse based on a linear regression of girth and height.

The secondary reference to Weisstein discloses linear regression is a method for fitting a curve (not necessarily a straight line) through a set of points using some goodness-of-fit criterion (see <http://mathworld.wolfram.com/Regression.html> and <http://mathworld.wolfram.com/LinearRegression.html> and <http://mathworld.wolfram.com/LeastSquaresFitting.html>).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used linear regression to estimate the weight of a horse.

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Accordingly, such a modification would have been obvious since linear regression can provide the best possible solution to a relationship between variables (see <http://mathworld.wolfram.com/LeastSquaresFitting.html>) such as height and girth, thereby suggesting the obviousness of the modification.

*Allowable Subject Matter*

5. Claims 4, 6, 7, 11, 13, 14, 18, 20, 21, 25, 27, 28, 31, 33, 36, 38, 41, 43, 46, and 48 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the allowance of claims 4, 11, and 25 is the inclusion of the method steps being estimating the weight of a horse using the formula

$$\text{Weight Estimate} = K1 \times \text{Girth}^{x1} \times \text{Height}^{x2} \times \text{Length}^{x3}$$

where k1 is about .003591, x1 is about 1.638339, x2 is about .948065 and x3 is about .397592.

It is these steps found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 18 is the inclusion of the limitations of an apparatus for estimating the weight of a horse wherein the estimation logic estimates the weight of the horse using the formula

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$$\text{Weight Estimate} = K1 \times \text{Girth}^{x1} \times \text{Height}^{x2} \times \text{Length}^{x3}$$

where k1 is about .003591, x1 is about 1.638339, x2 is about .948065 and x3 is about .397592.

It is these limitations found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 6, 7, 13, 14, 27, and 28 is the inclusion of the method steps being estimating the weight of a horse by utilizing the formula

$$\text{Weight Estimate} = K2 \times (\text{Girth} \times f1 + \text{Height} \times f2 + \text{Length} \times f3)^{x4}$$

wherein k2, f1, f2, f3 and x4 are unique. It is these steps found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 20 and 21 is the inclusion of the limitations of an apparatus for estimating the weight of a horse wherein the estimation logic estimates the weight of the horse using the formula

$$\text{Weight Estimate} = K2 \times (\text{Girth} \times f1 + \text{Height} \times f2 + \text{Length} \times f3)^{x4}$$

wherein k2, f1, f2, f3 and x4 are unique. It is these limitations found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.



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The primary reason for the allowance of claims 31, 36, and 46 is the inclusion of the method steps being estimating the weight of a horse using the formula

$$\text{Weight Estimate} = K3 \times \text{Girth}^{x5} \times \text{Height}^{x6}$$

where k3 is about .003538, x5 is about 1.989527, and x6 is about 1.004088. It is these steps found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 41 is the inclusion of the limitations of an apparatus for estimating the weight of a horse wherein the estimation logic estimates the weight of the horse using the formula

$$\text{Weight Estimate} = K3 \times \text{Girth}^{x5} \times \text{Height}^{x6}$$

where k3 is about .003538, x5 is about 1.989527, and x6 is about 1.004088. It is these limitations found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claims 33, 38, and 48 is the inclusion of the method steps being estimating the weight of a horse by utilizing the formula

$$\text{Weight Estimate} = K4 \times (\text{Girth} \times f4 + \text{Height} \times f5)^{x7}$$

wherein k4 is about .003479, f4 is about .63, f5 is about .37 and x7 is about 2.999198. It is these steps found in each of the claims, as they are claimed in the combination, that has not been

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found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 43 is the inclusion of the limitations of an apparatus for estimating the weight of a horse wherein the estimation logic estimates the weight of the horse using the formula

$$\text{Weight Estimate} = K4 \times (\text{Girth} \times f4 + \text{Height} \times f5)^{x7}$$

wherein k4 is about .003479, f4 is about .63, f5 is about .37 and x7 is about 2.999198. It is these limitations found in each of the claims, as they are claimed in the combination, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

### *Response to Arguments*

7. With regard to applicants arguments in response to 35 U.S.C. 102 claim rejections applicant's arguments filed September 8<sup>th</sup> 2003 have been fully considered but they are not persuasive. With regard to applicants arguments beginning on page 16 and continuing through page 21 it is clear that the reference to Carrol et al. shows estimating the weight of a horse using a mathematical formula including the girth, the length and the height of the horse (see page 42 column 2 line 4 through line 9 and Table 2), and that each of these previously measured quantities has a different significance in the formula, the girth variable representing the animal's girth, the length variable representing the animal's length and the height variable representing the animal's height – the examiner appreciates that each variable can be weighted differently but the

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mere recitation of a “different significance” does not substantially limit the claim to having each quantity have a different mathematical weight – in this case each quantity has a different significance in what each quantity represents.

8. With regard to applicants arguments in response to 35 U.S.C. 103 claim rejections of claims 2, 3, 5, 9, 10, 12, 16, 17, 19, 23, 24, 26, 30, 32, 35, 37, 40, 42, 45, and 47 applicant's arguments filed September 8<sup>th</sup> 2003 have been fully considered but they are not persuasive. With regard to applicants arguments beginning on page 21 and continuing through page 25 Carrol et al. v. Weisstein teaches the limitations of these claims since the formulas provided in the claims match the formulas shown on page 44 Table 2 based on particular choices of  $k_1$ ,  $k_2$ ,  $k_4$ ,  $x_1$ ,  $x_2$ ,  $x_3$ ,  $x_4$ ,  $x_5$ ,  $x_6$ ,  $x_7$ ,  $f_1$ ,  $f_2$ ,  $f_3$ ,  $f_4$ , and  $f_5$  with Weisstein's teachings providing regression analysis teaching and motivation for the broad recitation of these claims not covered by particular choices for these variables. In particular the limitations of claims 3, 10, 17, and 24 with  $x_1$ ,  $x_2$ , and  $x_3$  unique and the following formula -

$$\text{Weight Estimate} = K_1 \times \text{Girth}^{x_1} \times \text{Height}^{x_2} \times \text{Length}^{x_3}$$

with  $k_1 = 1$ ,  $x_1=2$ ,  $x_2=0$ , and  $x_3=1$  provides the formula -

$$\text{Weight Estimate} = \text{Girth}^2 \times \text{Length}$$

which is the formula on page 44 Table 2 line 5 of Carrol et al. Similar choices of variables for the equations of the other claims produce other equations shown on page 44 Table 2 while staying wholly within the limitations of the claims. It is for this reason that the broad recitation of these claims is substantially taught by Carrol et al. v. Weisstein and the argument that Carrol et al. teaches away by suggesting a better result based solely on girth as opposed to a higher

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correlation based on girth, length, and height is moot since the recitation of the claims is broad enough to encompass the teachings of Carrol et al.

9. Applicant's arguments, see page 21 through page 25, filed September 8<sup>th</sup> 2003, with respect to claims 4, 6, 7, 11, 13, 14, 18, 20, 21, 25, 27, 28, 31, 33, 36, 38, 41, 43, 46, and 48 have been fully considered and are persuasive. The rejection of claims 4, 6, 7, 11, 13, 14, 18, 20, 21, 25, 27, 28, 31, 33, 36, 38, 41, 43, 46, and 48 has been withdrawn.

### *Conclusion*

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 4,823,894 to Koerner because it teaches girth of a horse can be used to estimate a horses weight (see column 1 line 20 through line 27).

U.S. Patent Application Publication US2002/0046471 to Skidmore because it teaches estimating the weight of a ruminant by measuring its hip size.

European Patent Application EP 1,316,776 A2 to Crommert et al. because it teaches estimating an animals weight by measuring its girth.

Derwent Publication No. NL 1011049 C2 to Crommert et al. because it teaches estimating a pigs weight by measuring its girth.

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

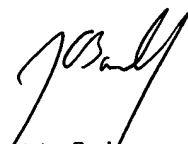
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony T. Dougherty whose telephone number is (703) 305-4020. The examiner can normally be reached on Monday through Friday from 8 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Barlow can be reached on (703) 308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 305-3431 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



atd  
October 29, 2003



John Barlow  
Supervisory Patent Examiner  
Technology Center 2800